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ERICSSON INC.  
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PLANO, TX 75024

EXAMINER
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DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2686

11

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/879,451

Applicant(s)

PAPADIMITRIOU ET AL.

Examiner

Willie J. Daniel, Jr.

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Oath/Declaration*

1. The objection to the Declaration is withdrawn, as the proposed declaration correction is approved.

### *Drawings*

2. The objections to the Figs. 1-4 according to **Form PTO-948** are withdrawn, as the proposed figure corrections are approved.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: **Fig. 2** has "**MGW, CIC150**" which are not mentioned in specification. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The objection to the Abstract is withdrawn, as the proposed Abstract correction is approved.

### *Claim Rejections - 35 USC § 112*

5. The rejection to Claim 6 is withdrawn, as the proposed claim correction is approved.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al.** (hereinafter Ho) (**US 6,091,953**) in view of **Stumpert (WO 01/13657)** and **Anquetil et al.** (hereinafter Anquetil) (*Media Gateway Control Protocol and Voice Over IP Gateways*).

Regarding **Claim 1**, Ho discloses of having a telecommunications network (100) providing non-dedicated circuit pathways between base station controller (110) which reads on the claimed “access nodes” and switches (104) in the wireless communication system (100) which reads on the claimed “network” (Fig. 1) comprising:

a plurality of access nodes (110) disposed about a service area of the telecommunications network (see col. 5, line 18-25; Fig. 1);

a switch pool (104) adapted to communicate with the access nodes (110) in order to provide access by a plurality of mobile units (136) which reads on the claimed “user terminals” to services of the telecommunications network (100) (see col. 5, lines 18-31; Fig. 1), where the pool of switches are connected to user terminals through access nodes;

a dispatching switch (102) which reads on the claimed “media gateway” providing one or more connections between the access nodes (110) and the switch

pool (104) via a plurality of circuit pathways (see col. 5, line 18-25; col. 9, line 57 - col. 10, line 8; Figs. 1, 3, 4, and 15), where the switch pool is connected to the access nodes via the dispatching switch;

a switch processing core (404) which reads on the claimed "media gateway selection node" operably coupled to the media gateway (102) and the switch pool (see col. 5, line 18-25; col. 10, lines 27-37; Figs. 18, 19, 20C), where the core controls the dispatching switch for connecting the access nodes to the switch pool. Ho fails to disclose having a network with at least two gateways and the media gateway selection node configured for selecting a media gateway; allocating a circuit pathway between a switch and a target access node, wherein said allocating step comprises: allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating a non-dedicated circuit pathway between the selected media gateway and the-target access node. However, the examiner maintains that a network with at least two media gateways was well known in the art, as taught by Stumpert.

In the same field of endeavor, Stumpert teaches of having a network with at least two media gateways (see pg. 1 (1<sup>st</sup> paragraph); pg. 20-21; Figs. 3, 6-12), where the system has at least two media gateways for communicating depending on the system size in which the control nodes (TSCs, MSCs, and GMSCs) that are connected to multiple media gateways (MGW1-3) (see pg. 2, 6th paragraph; pg. 5, 1<sup>st</sup> paragraph; pg. 6-7; Figs. 3, 6-12) allows end to end connection through the media gateways.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ho and Stumpert to have a

network with at least two media gateways, in order to have a network to perform an optimal routing for the payload thereby using a minimum of resources, as taught by Stumpert. Ho and Stumpert both fail to disclose having the media gateway selection node configured for selecting a media gateway; allocating a circuit pathway between a switch and a target access node, wherein said allocating step comprises: allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating a non-dedicated circuit pathway between the selected media gateway and the-target access node. However, the examiner maintains that having the media gateway selection node configured for selecting a media gateway; allocating a circuit pathway between a switch and a target access node, wherein said allocating step comprises: allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating a non-dedicated circuit pathway between the selected media gateway and the-target access node was well known in the art, as taught by Anquetil.

In the same field of endeavor, Anquetil discloses of having a media gateway controller (MGC) which reads on the claimed "media gateway selection node" configured for

selecting a media gateway (MG) (see pg. 154, left column; Fig. 2), where the media gateway controller selects a media gateway for end to end connection;

allocating a connection which reads on the claimed "circuit pathway" between a switch (SG) and a PBX which reads on the claimed "target access node" (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Fig. 2), wherein said allocating step comprises:

allocating a virtual connection which reads on the claimed “non-dedicated circuit pathway” between the switch and the selected media gateway (MG) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Fig. 2), where the controller allocates a connection to endpoints via the media gateways;

allocating a non-dedicated circuit pathway between the selected media gateway (MG) and the-target access node (PBX) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Figs. 2), where the controller allocates a connection to endpoints via the media gateways.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ho, Stumpert, and Anquetil to have the media gateway selection node configured for selecting a media gateway; allocating a circuit pathway between a switch and a target access node, wherein said allocating step comprises: allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating a non-dedicated circuit pathway between the selected media gateway and the-target access node, in order to have a network that is scalable by controlling media gateway selection with a media gateway controller, as taught by Anquetil.

Regarding **Claim 2**, the combination of Ho, Stumpert, and Anquetil discloses every limitation claimed, as applied above (see claim 1), in addition Ho further teaches of a network (100) of claim 1 wherein the switches (104, 106, 108) comprise Mobile Switching Centers (MSCS) (see Figs. 1 and 2).

Regarding **Claim 3**, the combination of Ho, Stumpert, and Anquetil discloses every limitation claimed, as applied above (see claim 1), in addition Ho further

teaches the network of claim 1 wherein the access nodes (110, 112, 114, 116) comprise Base Station Controllers (BSCS) (see Fig. 1).

Regarding **Claim 4**, the combination of Ho, Stumpert, and Anquetil discloses every limitation claimed, as applied above (see claim 1), in addition Ho further teaches the network of claim 1 wherein the access nodes (110) comprise Radio Network Servers (RNSs) (see col. 6, lines 19-22; col. 10, lines 30-37; Figs. 2, 4, 5A, 5B, 6), where the dispatch switch (102) uses an addressing table of stored data that is periodically updated and used to route traffic in which a server would be inherent.

Regarding **Claim 5**, the combination of Ho, Stumpert, and Anquetil discloses every limitation claimed, as applied above (see claim 1), in addition Ho further discloses wherein the media gateway selection node (404) further comprises a data structure defining relationships among media gateways, access nodes, and identity codes associated with the circuit pathways (see col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; Figs. 2, 4, 5A-B, 7, 8), where the data structure of the addressing table defines the connections and routes used between the network.

Regarding **Claim 6**, the combination of Ho, Stumpert, and Anquetil discloses every limitation claimed, as applied above (see claim 5), in addition Ho further discloses the network of claim 5 wherein the data structure comprises a media gateway selection database (see col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 30-37; Figs. 2, 5A-B, 7, 8), where the addressing table is stored data for selecting and determining the route and connections between the components therefore a database is inherent.



Regarding **Claim 7**, the combination of Ho and Anquetil as applied above to Claim 1 discloses of having identity associated with the paths and components of the path in the addressing table (see Ho - col. 7, lines 39-56; col. 9, lines 57-64; Figs. 2 and 7), where the signal path and connections are associated with identities in the addressing table. Ho fails to disclose the codes with Circuit Identity Codes (CICS). However, the examiner maintains that the codes with Circuit Identity Codes (CICS) were well known in the art, as taught by Stumpert.

Stumpert further discloses having codes with circuit identity codes (CICs) (see pg. 11, 4<sup>th</sup> paragraph).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ho, Stumpert, and Anquetil to have wherein the identity codes comprise Circuit Identity Codes (CICS), in order to have different identifying CICs used for routing between different components of the network during call setup and control, as taught by Stumpert.

**Claims 8-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al.** (hereinafter Ho) (**US 6,091,953**) in view of **Anquetil et al.** (hereinafter Anquetil) (*Media Gateway Control Protocol and Voice Over IP Gateways*).

Regarding **Claim 8**, Ho discloses of a method of providing non-dedicated circuit pathways between access nodes (BSC) and switches (MSC) in a telecommunications network having a media gateway (102) operably connected to a media gateway selection node (404) (see col. 5, line 18-25; col. 10, lines 27-37; Figs.

Art Unit: 2686

1, 3, 18, 19, 20C), where the core (404) controls the dispatching switch (102) for connecting the access nodes to the switch pool, the method comprising the steps of:

subsequently, de-allocating the circuit pathway between the switch (104) and selected media gateway (102) (see col. 14, lines 39-57; Fig. 8); and

de-allocating the circuit pathway between the selected media gateway (102) and the target access node (110) (see col. 14, lines 39-57; col. 15, lines 7-18; Fig. 8).

Also, Ho can allocate circuit pathways between the switch (MSC) and a target access node (BSC) (see col. 13, line 52 - col. 14, line 17; Fig. 7). Ho fails to disclose having a network with a plurality of media gateways and selecting a media gateway;

allocating, by the media gateway selection node, a circuit pathway between a switch and a target access node, wherein said allocating step comprises: allocating a non-

dedicated circuit pathway between the switch and the selected media gateway;

allocating a non-dedicated circuit Pathway between the selected media gateway and

the target access node. However, the examiner maintains that a network with a

plurality of media gateways and selecting a media gateway; allocating, by the media

gateway selection node, a circuit pathway between a switch and a target access node,

wherein said allocating step comprises: allocating a non-dedicated circuit pathway

between the switch and the selected media gateway; allocating a non-dedicated circuit

Pathway between the selected media gateway and the target access node was well

known in the art, as taught by Anquetil.

Anquetil discloses a plurality of media gateways (MG) (see Fig. 2), where the system has multiple media gateways (MG); and

selecting a media gateway (MG) (see pg. 154, left column; Fig. 2), where the media gateway controller selects a media gateway for end to end connection;

allocating, by the media gateway selection node (MGC), a circuit pathway (connection) between a switch (SG) and a target access node (PBX) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Fig. 2), wherein said allocating step comprises:

allocating a non-dedicated circuit pathway between the switch (SG) and the selected media gateway (MG) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Fig. 2), where the controller (MGC) allocates a virtual connection to endpoints via the media gateways;

allocating a non-dedicated circuit pathway between the selected media gateway (MG) and the target access node (PBX) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Figs. 2), where the controller allocates a virtual connection to endpoints via the media gateways.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ho and Anquetil a network with a plurality of media gateways and selecting a media gateway; allocating, by the media gateway selection node, a circuit pathway between a switch and a target access node, wherein said allocating step comprises: allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating a non-dedicated circuit Pathway between the selected media gateway and the target access node, in order to have a network that is scalable by controlling media gateway selection with a media gateway controller, as taught by Anquetil.

Regarding **Claim 9**, the combination of Ho and Anquetil discloses every limitation claimed, as applied above (see claim 8), in addition Ho further teaches the method of claim 8 wherein the steps of selecting, allocating, and deallocating are performed dynamically (see col. 13, line 52 - col. 14, line 17; col. 14, lines 39-57; col. 15, lines 7-18; Figs. 7 and 8).

Regarding **Claim 10**, the combination of Ho and Anquetil discloses every limitation claimed, as applied above (see claim 9), in addition Ho further teaches the method of claim 8 further comprising the step of maintaining a media gateway selection node (404) for selecting, allocating, and de-allocating circuit pathways (see col. 13, line 52 - col. 14, line 17; col. 14, lines 39-57; col. 15, lines 7-18; Figs. 1, 2, 7, and 8), where the pathways are selected, allocated, and de-allocated through the node which has to maintain an addressing table of pathways between the linked components of the network.

Regarding **Claim 11**, the combination of Ho and Anquetil discloses every limitation claimed, as applied above (see claim 10), in addition Ho further teaches the method of claim 10 further comprising the step of maintaining a switch pool comprising the switches (104) of the telecommunications network (100), the switch pool operably connected to the media gateway selection node (404) (see Figs. 1 and 4), where the switch pool has connectivity to the node.

Regarding **Claim 12**, the combination of Ho and Anquetil discloses every limitation claimed, as applied above (see claim 10), in addition Ho further teaches the method of claim 10 further comprising the step of maintaining a data structure defining relationships among gateways, access nodes, switches, and identity codes

Art Unit: 2686

(see col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; Figs. 2, 4, 5A-B, 7, 8), where the data structure of the addressing table defines the connections and routes used between the network.

Regarding **Claim 13**, Ho discloses a media gateway selection node (404) for use in a telecommunications network (100) for providing non-dedicated circuit pathways between access nodes (110, 112) and switches (104, 106, 108) of a switch pool in the network (100), where the core (404) controls the dispatching switch (102) for connecting the access nodes to the switch pool, comprising:

means for storing and accessing data concerning media gateways, access nodes, switches, and circuit pathways of the network (100) (see col. 6, lines 19-22; col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; col. 10, lines 30-37; Figs. 2, 4, 5A-B, 6, 7, 8), where the data of the addressing table defines the connections and routes used between the network;

means for defining relationships among the media gateways, access nodes, switches, and circuit pathways (see col. 6, lines 19-22; col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; col. 10, lines 30-37; Figs. 2, 4, 5A-B, 6, 7, 8), where the data of the addressing table defines the connections and routes used between the network; and

means (404) for reserving and releasing circuit pathways as needed for use between individual switches (104) and individual access nodes (110) (see col. 6, lines 19-22; col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; col. 10, lines 30-37; Figs. 2, 4, 5A-B, 6, 7, 8), where the data of the addressing table defines

the connections and routes used within the network and for establishing and releasing connections;

subsequently de-allocating each allocated circuit pathway between the switch (104) and the target access node (110) (see col. 14, lines 39-57; col. 15, lines 7-18; Fig. 8). Also, Ho can allocate circuit pathways between the switch (MSC) and a target access node (BSC) (see col. 13, line 52 - col. 14, line 17; Fig. 7). Ho fails to disclose wherein the means for reserving and releasing the circuit pathways is configured for: selecting a media gateway; allocating a circuit pathway between a switch and a target access node wherein said allocating step comprises; allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating- a non-dedicated circuit pathway between the selected media gateway and the target access node. However, the examiner maintains that wherein the means for reserving and releasing the circuit pathways is configured for: selecting a media gateway; allocating a circuit pathway between a switch and a target access node wherein said allocating step comprises; allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating- a non-dedicated circuit pathway between the selected media gateway and the target access node was well known in the art, as taught by Anquetil.

Anquetil discloses wherein the means (MGC) for reserving and releasing the circuit pathways is configured for (see Fig. 2), where the media gateway controller (MGC) can select one of the media gateways:

selecting a media gateway (MG) (see pg. 154, left column; Fig. 2), where the media gateway controller selects a media gateway for end to end connection;

allocating, by the media gateway selection node (MGC), a circuit pathway (connection) between a switch (SG) and a target access node (PBX) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Fig. 2), wherein said allocating step comprises:

allocating a non-dedicated circuit pathway between the switch (SG) and the selected media gateway (MG) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Fig. 2), where the controller (MGC) allocates a virtual connection to endpoints via the media gateways;

allocating a non-dedicated circuit pathway between the selected media gateway (MG) and the target access node (PBX) (see pg. 154, left column - right column, 2<sup>nd</sup> paragraph; Figs. 2), where the controller allocates a virtual connection to endpoints via the media gateways.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ho and Anquetil wherein the means for reserving and releasing the circuit pathways is configured for: selecting a media gateway; allocating a circuit pathway between a switch and a target access node wherein said allocating step comprises; allocating a non-dedicated circuit pathway between the switch and the selected media gateway; allocating- a non-dedicated circuit pathway between the selected media gateway and the target access node, in order to have a network that is scalable by controlling media gateway selection with a media gateway controller, as taught by Anquetil.

Regarding **Claim 14**, Ho discloses the media gateway selection node (404) according to claim 13 wherein the data concerning media gateways, access nodes,

Art Unit: 2686

switches, and circuit pathways, further comprises load carrying capacity (see col. 13, lines 29; col. 16, line 53 - col. 17, line 47; Figs. 4, 6, 11, 12).

Regarding **Claim 15**, Ho discloses the media gateway selection node (404) according to claim 13 wherein the means for defining relationships among the media gateways, access nodes, switches, and circuit pathways is adapted to perform dynamically (see col. 6, lines 19-22; col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; col. 10, lines 30-37; col. 13, lines 29; col. 16, line 53 - col. 17, line 47; Figs. 2, 4, 5A-B, 6, 11, 12), where the data of the addressing table defines the connections and routes used between the network.

Regarding **Claim 16**, Ho discloses the media gateway selection node (404) according to claim 13 wherein the means for reserving and releasing circuit pathways as needed for use between individual switches and individual access nodes is adapted to perform dynamically (see col. 6, lines 19-22; col. 7, lines 39-56; col. 9, line 57 - col. 10, line 4; col. 10, lines 14-22; col. 10, lines 30-37; col. 13, lines 29; col. 16, line 53 - col. 17, line 47; Figs. 2, 4, 5A-B, 6, 7, 8, 11, 12), where the data of the addressing table defines the connections and routes used within the network in which the connections are established and released.



Art Unit: 2686

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2686

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJD,JR/wjd,jr  
23 June 2004

  
**CHARLES APPIAH**  
**PRIMARY EXAMINER**